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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,821	11/13/2001	Woon Na	SAM-0267	5668

7590 10/21/2004
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EXAMINER

NATNAEL, PAULO S M

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/008,821	Applicant(s) NA, WOON	
	Examiner Paulos M. Natnael	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1,2, 8** are rejected under 35 U.S.C. 102(e) as being anticipated by **Kim**, U.S. Pat. No. **5,686,972**.

Considering claim 1,

a) first, second, third, and fourth delays connected to a digital composite video signal in series, the first, second, third, and fourth delays for delaying input signals each by 1 horizontal period, is met by delays 32,34,36,and 38, fig. 3;

b) a first filter for separating a first chrominance signal from signals output from the first and second delayers, is met by H Filter 64 and V Filter 66, fig.3;

c) a second filter for separating a second chrominance signal from signals output from the second and third delayer, is met by D filter 62, and H-V Filter 68, fig.3;

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d) a vertical edge direction detector for detecting a vertical edge direction based on signals output from the second and fourth delayers and the digital composite video signal, is met by Direction Determiner 56, fig.3;

e) a multiplexer for outputting one of the first and second chrominance signals according to a signal output from the vertical edge direction detector, is met by the filter selector 70, fig.3, which receives filtered signals and direction signal A through D Filter 62, fig.3;

e) a chrominance signal outputting unit for receiving the signal output from the multiplexer and for outputting a perfect chrominance signal, is met by BandPass filter 71, fig.3;

f) and a luminance signal outputting unit for receiving the signal output from the second deinterlacer and the perfect chrominance signal and for outputting a perfect luminance signal, is met by adder 72, fig.3;

Considering claim 2, the apparatus of claim 1, wherein the first and second filters are each comb filters, is met by filters 62-68, fig.3;

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Considering claim 8. The apparatus of claim 1, wherein the first through fourth delayers each comprise line memories, is met by 1H delays 32-38, fig.3;

Allowable Subject Matter

3. Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose an apparatus wherein a first filter comprises: a first subtractor for subtracting the signal output from the first delayer from the signal output from the second delayer; and a first divider for dividing a signal output from the first subtractor by 2 and outputting a signal output from the first filter, as in claim 3;

wherein the second filter comprises: a second subtractor for subtracting the signal output from the third delayer from the signal output from the second delayer; and a first divider for dividing a signal output from the second subtractor by 2 and outputting a signal output from the second filter, as in claim 4;

wherein the vertical edge direction detector comprises: a third subtractor for subtracting the signal output from the fourth delayer from the signal output from the second delayer; a fourth subtractor for subtracting the digital composite video signal from the signal output from the second delayer; a first absolute value calculator for calculating an absolute value of signals output from the third subtractor; a second

absolute value calculator for calculating an absolute value of signals output from the fourth subtractor; and a comparator for comparing the absolute values output from the first and second absolute value calculators, as in claim 5;

wherein the chrominance signal outputting unit comprises: a low-pass filter for filtering the output of the multiplexer; and a first limiter for limiting the output of the low-pass filter to a predetermined magnitude to output a perfect chrominance signal, as in claim 6;

wherein the luminance signal outputting unit comprises: a subtractor for subtracting the chrominance signal from the signal output from the second delayer to separate a luminance signal; and a second limiter for limiting the luminance signal output from the subtractor to a predetermined magnitude to output a perfect luminance signal, as in claim 7.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PMN
October 15, 2004



PAULOS M. NATNAEL
PATENT EXAMINER